

| L Number | Hits | Search Text | DB | Time stamp |
|----------|------|---|----------------------------|------------------|
| 11 | 1228 | 438/15,111,118,119,123,782.cccls. and adhesive | USPAT; US-PGPUB | 2002/10/03 16:30 |
| 12 | 292 | (438/15,111,118,119,123,782.cccls. and adhesive) and (finger or bars) | USPAT; US-PGPUB | 2002/10/03 15:11 |
| 13 | 936 | (438/15,111,118,119,123,782.cccls. and adhesive) not ((438/15,111,118,119,123,782.cccls. and adhesive) and (finger or bars)) | USPAT; US-PGPUB | 2002/10/03 15:17 |
| 14 | 445 | ((438/15,111,118,119,123,782.cccls. and adhesive) not ((438/15,111,118,119,123,782.cccls. and adhesive) and (finger or bars))) and @ad<=19970805 | USPAT; US-PGPUB | 2002/10/03 15:17 |
| 15 | 445 | ((438/15,111,118,119,123,782.cccls. and adhesive) not ((438/15,111,118,119,123,782.cccls. and adhesive) and (finger or bars))) and @ad<=19970805) and adhesive | USPAT; US-PGPUB | 2002/10/03 15:28 |
| 16 | 1 | ("6200852").PN. | USPAT; US-PGPUB | 2002/10/03 15:32 |
| 17 | 1 | ("5773322").PN. | USPAT; US-PGPUB | 2002/10/03 15:33 |
| 18 | 1 | ("5304842").PN. | USPAT; US-PGPUB | 2002/10/03 15:33 |
| 19 | 1 | ("5923957").PN. | USPAT; US-PGPUB | 2002/10/03 15:35 |
| 20 | 1 | ("6204093").PN. | USPAT; US-PGPUB | 2002/10/03 15:40 |
| 21 | 1 | | USPAT | 2002/10/03 15:35 |
| 22 | 1 | | USPAT | 2002/10/03 15:35 |
| 23 | 1 | | USPAT | 2002/10/03 15:35 |
| 24 | 1 | | USPAT | 2002/10/03 15:36 |
| 25 | 1 | | USPAT | 2002/10/03 15:36 |
| 26 | 1 | | USPAT | 2002/10/03 15:36 |
| 27 | 1 | | USPAT | 2002/10/03 15:37 |
| 28 | 1 | | USPAT | 2002/10/03 15:37 |
| 29 | 1 | | USPAT | 2002/10/03 15:37 |
| 30 | 1 | | USPAT | 2002/10/03 15:37 |
| 31 | 1 | | USPAT | 2002/10/03 15:37 |
| 32 | 1 | | USPAT | 2002/10/03 15:38 |
| 33 | 1 | | USPAT | 2002/10/03 15:38 |
| 34 | 1 | | USPAT | 2002/10/03 15:38 |
| 35 | 1 | | USPAT | 2002/10/03 15:39 |
| 36 | 1 | | USPAT | 2002/10/03 15:39 |
| 37 | 1 | | USPAT | 2002/10/03 15:39 |
| 38 | 1 | ("5286679").PN. | USPAT; US-PGPUB | 2002/10/03 15:41 |
| 39 | 2973 | (lead near frame) and adhesive | EPO; JPO; DERWENT; IBM_TDB | 2002/10/03 15:42 |
| 40 | 935 | ((lead near frame) and adhesive) and method | EPO; JPO; DERWENT; IBM_TDB | 2002/10/03 15:42 |
| 41 | 195 | ((lead near frame) and adhesive) and method) and (applying or coating or attaching) | EPO; JPO; DERWENT; IBM_TDB | 2002/10/03 15:43 |
| 42 | 1 | ("5733800").PN. | USPAT; US-PGPUB | 2002/10/03 16:31 |
| 43 | 139 | loc and viscous and packaging | USPAT; US-PGPUB | 2002/10/03 16:37 |
| 44 | 45 | (loc and viscous and packaging) and @ad<=19970805 | USPAT; US-PGPUB | 2002/10/03 16:37 |
| 45 | 1290 | micron and viscous and packaging | USPAT; US-PGPUB | 2002/10/03 16:37 |
| 46 | 714 | (micron and viscous and packaging) and @ad<=19970805 | USPAT; US-PGPUB | 2002/10/03 16:37 |
| 47 | 522 | ((micron and viscous and packaging) and @ad<=19970805) and (applying or coating ((micron and viscous and packaging) and @ad<=19970805) and adhesive | USPAT; US-PGPUB | 2002/10/03 16:38 |
| 48 | 323 | | USPAT; US-PGPUB | 2002/10/03 16:38 |

enough, may be straight

CLIPPEDIMAGE= JP406291156A

PAT-NO: JP406291156A

DOCUMENT-IDENTIFIER: JP 06291156 A

TITLE: **METHOD OF APPLYING ADHESIVE TO LEAD FRAME FOR SEMICONDUCTOR DEVICE**

PUBN-DATE: October 18, 1994

INVENTOR-INFORMATION:

NAME

KAWAMURA, TOSHIO
SUZUMURA, TAKASHI
SASAKI, SATOSHI
ENDO, HIROHISA
SUGIMOTO, HIROSHI

ASSIGNEE-INFORMATION:

| NAME | COUNTRY |
|-------------------|---------|
| HITACHI CABLE LTD | N/A |

APPL-NO: JP05079292

APPL-DATE: April 6, 1993

INT-CL (IPC): H01L021/52;B05D007/00 ;B05D007/24 ;H01L023/50

ABSTRACT:

PURPOSE: To easily apply a minimum volume of adhesive to the portions where semiconductor elements of inner lead are to be fixed by rotating a coating roll on which an insulating adhesive is coated while moving this coating roll or a lead frame horizontally.

CONSTITUTION: A lower portion of a coating roll 12 is dipped in an adhesive 11 placed in a liquid container 13, and a control plate 14 for controlling the coating thickness of the adhesive 11 is disposed near the coating roll 12.

Then, a lead frame 1 is sent horizontally while rotating the coating roll 12 by pressing roll 15 against the lead frame, thereby sequentially coating the adhesive to the lead frame 1. By doing this, the coating layer of the adhesive 11 can be made thinner with a minimum volume without striding the whole of a plurality of inner leads disposed in parallel.

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DERWENT-ACC-NO: 1998-373255

DERWENT-WEEK: 199832

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TITLE: Semiconductor device manufacturing method e.g. for LSI - involves coating lead member on lead frame with adhesive agent containing fusible resin, insulating powder and solvent

----- KWIC -----

Semiconductor device manufacturing method e.g. for LSI - involves coating lead member on lead frame with adhesive agent containing fusible resin, insulating powder and solvent

The method involves coating an insulating adhesive agent (3) to a lead member on a lead frame (6) by stamping. The adhesive agent contains a fusible resin, an insulating powder and a solvent.

Bonding of a semiconductor chip is performed by healing the coating of adhesive agent. Thereby the residual rate of a solvent is reduced and curvature deformation of chip is prevented.

ADVANTAGE - Reduces solvent residual rate. Prevents curvature deformation of large chips. Prevents generation of gap and crack in cementing layer.

Improves reliability and stabilises adhesive strength.

SEMICONDUCTOR DEVICE MANUFACTURE METHOD LSI COATING LEAD MEMBER LEAD FRAME ADHESIVE AGENT CONTAIN FUSE RESIN INSULATE POWDER SOLVENT

DERWENT-ACC-NO: 1998-229839

DERWENT-WEEK: 200256

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TITLE: Underfill coating e.g. for leads-over-chip (LOC) package - involves providing an adhesively coated material with lead-frame superposed on die with active surface adjacent to lead frame

----- KWIC -----

Underfill coating e.g. for leads-over-chip (LOC) package - involves providing an adhesively coated material with lead-frame superposed on die with active surface adjacent to lead frame

A semiconductor die assembly method comprising the steps of providing a lead frame having a number of lead members, at least one lead member of the number of lead members having longitudinal edges, having a top surface, having a bottom surface, having a lead end portion connected to a portion of the lead frame, having a length, having a thickness, and having a free end portion; providing a die having an active surface having at least one bond pad on it and having at least one outer edge.

lead frame is superposed on the die with the active surface lying adjacent the lead frame and the at least one lead member of the number of lead members extending over a portion of the active surface of the die; and securing a portion of the bottom surface of the free end portion the at least one lead member to one side of the adhesively coated material;

securing a portion of the active surface of the die to the other side of the adhesively coated material; and applying an underfill material to the gap formed between the remaining unsecured portion of the bottom surface of the free end portion of the at least one lead member of the number of lead members and the active surface of the die to eliminate the gap between the at least one lead member of the lead frame and the active surface of the semiconductor die when the lead frame is assembled to it.

USE - For assembling a semiconductor die to a lead frame to eliminate the gap between the lead members of the lead frame and the active surface of the semiconductor die when the lead frame is assembled to it.

COATING LEAD CHIP PACKAGE ADHESIVE COATING MATERIAL LEAD FRAME SUPERPOSED DIE ACTIVE SURFACE ADJACENT LEAD FRAME

DERWENT-ACC-NO: 1998-039531

DERWENT-WEEK: 199804

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TITLE: Film bonding method for lead frames used in semiconductor devices - involves drying film coated with adhesive agent comprising thermoplastic polyimide, which is then bonded with lead frames in desired position

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Film bonding method for lead frames used in semiconductor devices - involves drying film coated with adhesive agent comprising thermoplastic polyimide, which is then bonded with lead frames in desired position

The method involves drying a film (2) coated with an adhesive agent comprising thermoplastic polyimide in a far infra-red ray heater (4).

After drying, the film is bonded to a lead frame (3) using a punch (5) and punching die (1) assembly.

FILM BOND METHOD LEAD FRAME SEMICONDUCTOR DEVICE DRY FILM
COATING ADHESIVE

AGENT COMPRIZE THERMOPLASTIC POLYIMIDE BOND LEAD FRAME
POSITION

DERWENT-ACC-NO: 1997-519051

DERWENT-WEEK: 199748

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TITLE: **Adhesive** agent application method for lead frame used in semiconductor device - involves coating adhesive agent on pre heated element mounted area of lead frame

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Adhesive agent application method for lead frame used in semiconductor device - involves coating adhesive agent on pre heated element mounted area of lead frame

The method involves arranging a lead frame (200) on a stage (107). A heater (114) preheats the element mounted area of the lead frame on the stage.

A discharge unit of adhesive agent coater discharges adhesive agent on the heated element mounted area of the lead frame through a nozzle (111). A controller performs the relative displacement control of the station nozzle and temperature of heater.

ADVANTAGE - Suppresses expansion of binding material. Performs coating without air bubble generation.

ADHESIVE AGENT APPLY METHOD LEAD FRAME SEMICONDUCTOR DEVICE COATING ADHESIVE
AGENT PRE HEAT ELEMENT MOUNT AREA LEAD FRAME

DERWENT-ACC-NO: 1995-079296

DERWENT-WEEK: 199511

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TITLE: Adhesion method of semiconductor element - involves
pasting of
semiconduct or element and die pad formed on lead frame by
applying adhesive
agent in gap between them through nozzle

----- KWIC -----

Adhesion method of semiconductor element - involves pasting
of semiconduct or
element and die pad formed on lead frame by applying
adhesive agent in gap
between them through nozzle

The adhesion method of a semiconductor element involved
providing a die pad
(21) on a lead frame (2). A semiconductor element (1) is
positioned above the
die pad with a gap ''h'' in between by a collet (3). Many
penetration holes
(22) are formed on the die pad. An adhesive agent is
poured towards the gap by
a nozzle (41) inserted into the penetration hole. The
adhesive agent pasts the
semiconductor element and the die pad.

USE/ADVANTAGE - For use in manufacturing semiconductor
device. Avoids
formation of air bubbles in adhesive agent. Prevents
generation of crack of
mould resin covering semiconductor element. Provides
semiconductor device
having high reliability.

ADHESIVE METHOD SEMICONDUCTOR ELEMENT PASTE SEMICONDUCTOR
ELEMENT DIE PAD
FORMING LEAD FRAME APPLY ADHESIVE AGENT GAP THROUGH NOZZLE